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ABSTRACT

This bibliography serves as a guide to teachers and librarians who want to select books to supplement the elementary school mathematics program. The selections give an indication of the wide variety of topics which may include mathematical concepts. They reinforce or develop concepts about number and size, present material on the application of these understandings, or delve into the history and theory of mathematics. A short annotation is given for most entries. (JP)

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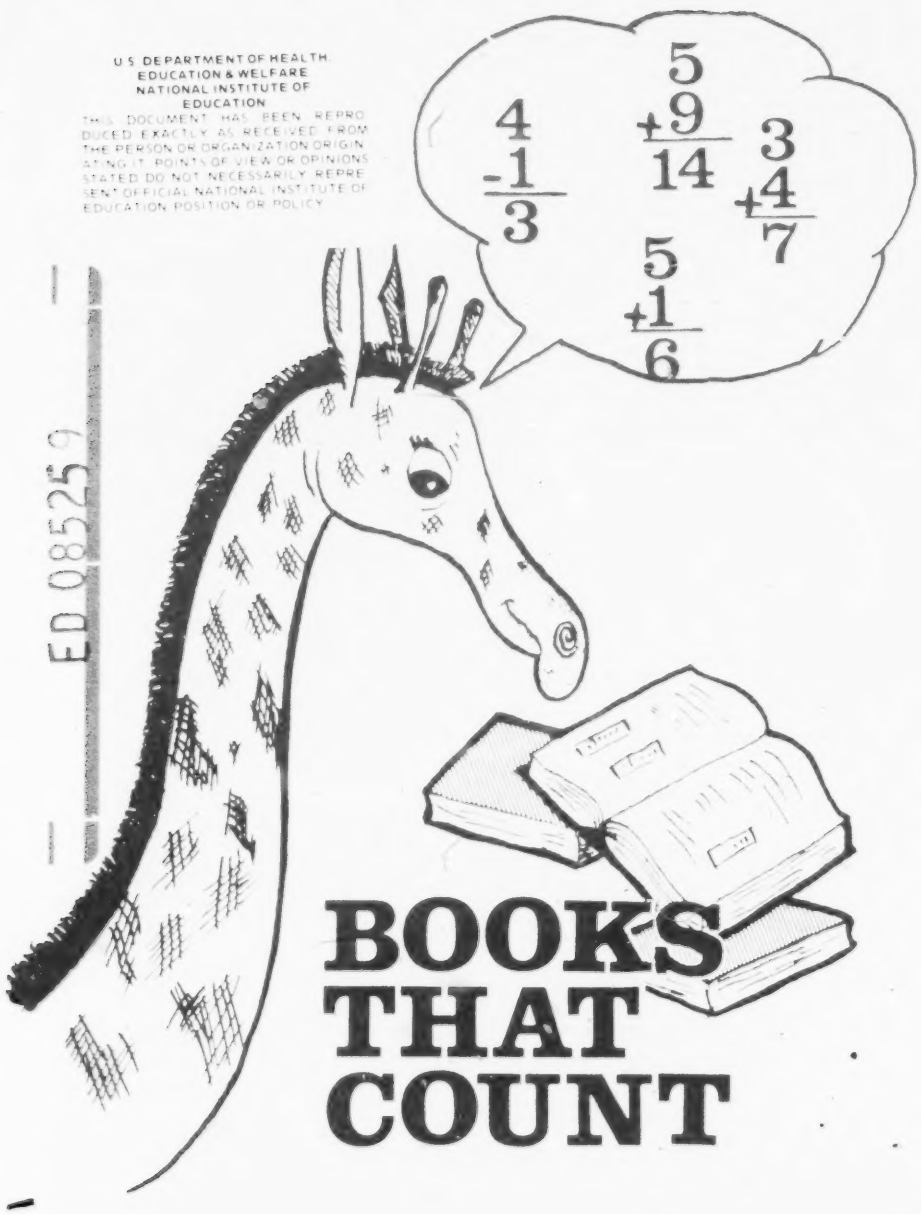

BOOKS THAT COUNT

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Albany, New York 12224

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BOOKS THAT COUNT

A BIBLIOGRAPHY

The University of the State of New York
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Albany, New York 12224
Revised 1973

THE UNIVERSITY OF THE STATE OF NEW YORK
Regents of the University (with years when terms expire)

1984 Joseph W. McGovern, A.B., J.D., L.H.D., LL.D., D.C.L.,
Chancellor- -New York
1985 Everett J. Penny, B.C.S., D.C.S.,
Vice Chancellor- White Plains
1978 Alexander J. Allan, Jr., LL.D., Litt.D.- - - - - - - - - Troy
1987 Carl H. Pforzheimer, Jr., A.B., M.B.A., D.C.S., H.H.D.-Purchase
1975 Edward M. M. Warburg, B.S., L.H.D.- - - - - - - - - - -New York
1977 Joseph T. King, LL.B.- - - - - - - - - - - - - - - - - Queens
1974 Joseph C. Indelicato, M.D.- - - - - - - - - - - - - - -Brooklyn
1976 Mrs. Helen B. Power, A.B., Litt.D., L.H.D., LL.D. - - -Rochester
1979 Francis W. McGinley, B.S., J.D., LL.D.- - - - - - - - -Glens Falls
1986 Kenneth B. Clark, A.B., M.S., Ph.D., LL.D., L.H.D., D.Sc. Hastings
on Hudson
1983 Harold E. Newcomb, B.A.- - - - - - - - - - - - - - - - Owego
1981 Theodore M. Black, A.B., Litt.D.- - - - - - - - - - - -Sands Point
1988 Willard A. Genrich, LL.B., L.H.D. - - - - - - - - - - -Buffalo
1982 Emlyn I. Griffith, A.B., J.D.- - - - - - - - - - - - - Rome

President of the University and Commissioner of Education
Ewald B. Nyquist

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FOREWORD

This bibliography has been prepared to aid teachers and librarians in selecting books to supplement the elementary school mathematics program. While these books have been carefully reviewed, this list is intended to serve only as a guide. The selections give an indication of the wide variety of topics which may include mathematical concepts. Since there are undoubtedly worthwhile titles not listed here, teachers and school librarians are encouraged to augment this list with other titles with which they may be familiar and to seek out additional materials already on hand or recommended elsewhere on similar topics.

The books listed incorporate mathematical principles. They reinforce or develop concepts about number and size, present material on the application of these understandings, or delve into the history and theory of mathematics. They are books which children enjoy and which support the mathematics program.

The bibliography has been divided into three sections. The primary section consists of picture books and easy-to-read books that involve simple mathematical ideas. Books on the intermediate level require greater reading ability and deal with more complex mathematics. The final listing presents titles for the more mathematically oriented student.

In this era of rapid change, the prices and availability of titles may change. However, the list may be used for ordering purposes with the understanding that some changes may have occurred.

These books are not available from the New York State Education Department. Orders should be placed with your regular jobber or with the publisher.

The manuscript was prepared by Dorothy N. Chillrud, School Librarian, Guilderland Central School District and John J. Sullivan, Associate in Mathematics Education for the Bureaus of Elementary Curriculum Development, Mathematics Education, and School Libraries.

USING THE LIBRARY FOR MATHEMATICS EDUCATION

Most people are not accustomed to reading mathematics books for recreation and enjoyment. This may be the major reason why teachers do not urge school librarians to develop a rich collection of mathematics books, nor urge students to use such collections. Yet hundreds of attractive and enjoyable mathematics books exist and new ones appear every month. Many of these were written by outstanding mathematics educators whose major concern was to clothe important mathematical concepts in readable, colorful language and attractive illustrations that would catch and hold the interest of children.

Encouraging children to read mathematics books may not be a serious problem at the primary level. The books written for children at this level are so colorful and appropriate that children reading them do not realize that they are reading mathematics.

At the intermediate level much more needs to be done to encourage students to read the mathematics books in school libraries. Teachers can enrich their lessons by asking students to investigate and report to the class on topics that relate to the mathematics program.

1. During the study of a unit on triangles, some students could investigate "Pythagorus," "Pascal," and "triangular numbers," to name just a few topics.
2. During the study of addition of whole numbers, some students could investigate "Fibonacci numbers" and "magic squares."

Elementary school children love puzzles, tricks, and games. There are many books from the field of recreational mathematics that can inject fun into the mathematics program. This kind of mathematics gives children a chance to develop problem-solving skills.

Teachers will find a great deal of help available from their state and national mathematics associations, including their official journals. The Association of Mathematics Teachers of New York State (AMTNYS) publishes the New York State Mathematics Teachers' Journal. Individual dues are $5/yr. Institutional dues are $6/yr. Dues, payable to Treasurer, AMTNYS, or requests for information may be sent to the Bureau of Mathematics Education, State Education Department, Albany, New York 12224. The NCTM publishes The Arithmetic Teacher eight times a year for $9 individual dues or $10 institutional dues. Write to the National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091. NCTM also will send a list of current publications, many of which may be helpful at the elementary level.

BOOKS THAT COUNT

For the Primary Grades

Adler, Irving and Ruth. Sets and numbers for the very young. Day. 1969. PLB $3.96; pa. $2.40
A workbook format on very elementary math concepts with plenty of illustrations but a substantial reading vocabulary.

Atwood, Ann. The little circle. Scribner. 1967. $5.95.
An adventure fantasy with beautiful photography develops the concept of a circle. Be aware that the first page statement, "And a zero is nothing," mathematically speaking, is not so.

Auerbach, Marjorie. Seven uncles come to dinner. Knopf. 1963. PLB $4.39.
Emile's shopping tour for seven uncles provides an amusing story.

Alain. One, two, three, going to the sea: an adding-and-subtracting book. Young Scott. 1964. $2.95.
Bold, striking colors appeal to children in this adding and subtracting story.

Aulaire, Ingri d'. Don't count your chicks. Doubleday. 1943. $4.95; PLB $.75 extra.
An old lady counts eggs and money and makes use of the one-to-one idea while dreaming of more chickens, eggs, and money.

Banner, Angela. One, two, three, with ant and bee: a counting story. Watts. 1959. $1.95.

Barr, Catherine. Seven chicks missing. Walck. 1962. $3.75.
Story of a mother grouse who loses one chick after another while taking her brood walking.

Baum, Arline. One bright Monday morning. Random House. 1962. PLB $4.39.
Rhythmic prose helps preschoolers learn numbers and the days of the week.

Behn, Harry. All kinds of time. Harcourt. 1950. $3.25.
Poetic book about clocks, time, and the seasons.

Beim, Jerrold. The smallest boy in the class. Morrow. 1949. $3.94.
Concepts of comparison developed through terms such as big, biggest, small, smallest, etc.

Bendick, Jeanne. All arcund you. McGraw. 1951. $3.75.
Science picture book about numbers and measurement describes the why and how of the world around us with simple pictures and vocabulary.

Berger, Melvin. Computers. Coward. 1972. PLB $3.49.
For general background as this book explains the operation and uses of the computer in very broad terms and fairly simple language. The enthusiastic presentation may lead some readers to expect more than is possible with computers.

Berkley, Ethel. Big and little, up and down: early concepts of size and direction. Young Scott. 1960. $3.25.
A combination and revision of two earlier titles.

Bianco, Pamela. Doll in the window. Walck. 1953. $4.25.
Saving pennies to buy Christmas presents for her five sisters, a little girl has to decide how much to save for each gift.

Bishop, C. H. Five Chinese brothers. Coward. 1938. $3.95; PLB $3.64.
An all time favorite. Useful in developing ideas of cardinal and ordinal numbers.

_____ Twenty-two bears. Viking. 1964. PLB $3.37.
Story of bears that come from everywhere makes for fun in developing concepts of numbers in groups from 1 to 22.

Blegvad, Lenore and Blegvad, Erik. One is for the sun. Harcourt. 1968. $3.50.
Lovely pictures and simple rhymes evoke a delightful mood while also presenting the numbers 1 to 10 and the millions. Some may want help finding the items counted.

Blough, G. O. Wait for the sunshine: the story of seasons and growing things. McGraw. 1954. $3.95; PLB $3.83.
Contains many ideas of measurement and comparison as well as cardinal and ordinal numbers.

Bragdon, L. J. Tell me the time, please. Lippincott. 1936.
PLB $3.59.

Branley, F. M. Big tracks, little tracks. Crowell. 1960. $3.75.
(Let's read and find out books)
Size and comparison are illustrated through tracks of insects, animals, birds, and human beings.

Brenner, Barbara. The five pennies. Knopf. 1964. PLB $4.39.
(A read alone book)
Nicky learns the value of money.

Bright, Robert. My red umbrella. Morrow. 1959. $3.36.
Useful to help strengthen a youngster's ability to count, recognize and compare groups.

Budney, Blossom. A kiss is round. Lothrop. 1954. $3.94.
Familiar objects which are round are described in picture and verse.

Carona, Philip. The true book of numbers. Childrens Press. 1964. PLB $4.50.

Chalmers, Audrey. Hundreds and hundreds of pancakes. Viking. 1942. PLB $3.19.
This humorous story about eating large numbers of pancakes conveys ideas of size, position, comparison, and measurement.

Charosh, Mannis. The ellipse. Crowell. 1971. $3.75. (A young math book)
Although the informal approach does not distinguish carefully between plane and solid figures, the laboratory exercises can give the pupil a feel for the ellipse and its relation to the circle and other conics.

_____ Mathematical games for one or two. Crowell. 1972. $3.75. (A young math book)
Simplified versions of some classical math games easily followed.

Colman, Hila. Watch that watch. Morrow. 1962. $3.94.
A "fun" story useful for impressing the child with the importance of time in everyday life.

Corcos, Lucille. From ungskah 1 to oyaylee 10: a counting book for all little Indians. Pantheon. 1965. $3.50 PLB $3.99.
A simple story that uses picture words and both English and Mohawk Indian words to count from 1 to 10.

Crews, Donald. Ten black dots. Scribner. 1968. $4.50.
Large black dots are incorporated into vivid, simplified objects and described with short rhymes to illustrate the numbers 1 to 10.

Dennis, J. Richard. Fractions are parts of things. Crowell. 1971. $3.75. (A young math book)
A very pronounced effort to provide visual models for a few unit fractions.

Dodge, Bertha S. Big is so big. Coward. 1972. PLB $3.49.
Whimsical but basically sound presentation of simple linear measurement, area and volume beginning with a child-invented unit of measurement.

Duvoisin, R. A. Two lonely ducks: a counting book. Knopf. 1955. PLB $4.19.
Counting ducklings, days of the week, and weeks in the month provides practice with cardinal and ordinal numbers.

Eichenberg, Fritz. Dancing in the moon. Harcourt. 1956. $3.50.
Rhymed introduction to numbers from 1 to 20.

Elkin, Benjamin. Six foolish fisherman. Childrens Press. 1957. PLB $3.95.

Emberly, Ed. The wing on a flea: a book about shapes. Little. 1961. $3.95.
A funny favorite makes use of cardinal and ordinal numbers.

Everson, Dale. Mrs. Popover goes to the zoo. Morrow. 1963. $3.78.
Mrs. Popover loses 24 children and then finds them again in this amusing, illustrated counting book.

Feelings, Muriel. Moja means one; Swahili counting book. Dial. 1971. $4.50.
Counting from 1 to 10 in Swahili along with drawings of East African scenes and simple English text to depict the number concept with elements of African culture.

Fey, James T. Long, short, high, low, thin, wide. Crowell. 1971. $3.75. (A young math book)
A very elementary introduction to basic concepts of linear measurement including a brief account of linear metric units of measure.

Fisher, M. M. One and one. Dial Press. 1963. $2.95.
Not a counting book, but a supplement to the study of what numbers are and how they work; an introduction to the basic theory of numbers.

Fletcher, Helen Jill. Puzzles and quizzles. Abelard-Schuman. 1971. $3.75; PLB $3.59.
A variety of interesting questions with pictures - some easy, some more difficult - plus solutions. Note: these are not necessarily the only correct answers.

Freeman, Mae. Finding out about shapes. McGraw. 1969. $3.95.
Basic shapes (plane and solid) are clearly drawn and explained with simple language and everyday examples. There are some dubious (mathematically imprecise, incorrect) statements but the pluses far outweigh the minuses.

Friskey, Margaret. Chicken Little, count-to-ten. Childrens Press. 1946. PLB $3.95.
Chicken Little meets animals in groups of 1 through 10 identifying the number in each group.

_____ The mystery of the farmer's three fives. Childrens Press. 1963. PLB $3.95.
Number concepts of few and many, and of relative size groupings using barnyard animals as the units.

_____ Seven diving ducks. Hale. 1940. PLB $2.34.

Gag, Wanda, Millions of cats. Coward. 1929. $3.50; PLB $3.29.
This picture book classic provides readiness for large numbers --hundreds, thousands, millions--and includes concepts of around, over, through, etc.

Froman, Robert. Bigger and smaller. Crowell. 1971. $3.75. (A young math book)
Explains and illustrates many, many examples of things being bigger or smaller.

_____ Rubber bands, baseballs and doughnuts: a book about topology. Crowell. 1972. $3.75.
See listing in intermediate section.

Geisel, T. S. McElligot's pool, by Dr. Seuss, pseud. Random House. 1947. $3.50; PLB $4.19.
Delightful nonsense animals convey the idea of number, comparison, shape, size, length and height.

_____ One fish, two fish, red fish, blue fish, by Dr. Seuss, pseud. Random House. 1960. $2.50; PLB $3.07.

_____ Ten apples up on top, by Theo. LeSieg, pseud. Random House. 1961. $2.50; PLB $3.07.

Grayson, M. F. Let's do fingerplays. Luce. 1962. $5.50.
A useful source book for teachers, this fine collection of fingerplays makes learning numbers and counting fun.

Gregor, Arthur. 1, 2, 3, 4, 5, verses. Lippincott. 1956. $3.50.
A counting book in rhyme.

Hawkinson, Lucy. That new river train. Albert Whitman. 1970. $3.25.
Counting 1 to 10 with charming pictures and words for the folksong that begins: "Jenny, you can't love one."

Hegensbaugh, Jane. I live in so many places. Childrens Press. 1956. PLB $3.95.
Useful in developing relative position.

Hoban, Tana. Count and see. Macmillan. 1972. $4.95.
Numerals, number words, dots and vivid photographs develop number concepts-by ones to fifteen, and by tens to one hundred. Vocabulary of only number words makes this useable for independent drill on number concepts and representations by the very young.

Hoberman, M. A. All my shoes come in twos. Little. 1957. $3.95.
Rhyming story about all kinds of shoes uses the idea of "two" over and over.

Hutchins, Pat. Clocks and more clocks. Macmillan. 1970. $4.95.
A humorous, simple story that solves the problem of which clock is correct when each seems to tell a different time. Should be particularly interesting to children learning to tell time.

Ipcar, Dahlov. Brown cow farm. Doubleday. 1959. $3.95; PLB $.75 extra.

Kafka, Sherry. Big enough. Putnam. 1970. $3.50; PLB $3.29.
A vocabulary of companions-big, bigger, tall, long, etc., is included in this story of a child growing old enough to start school and do things older children do.

Kay, Helen. One mitten Lewis. Lothrop. 1955. $3.94.
Pair, both, one, each, first, and next are ideas expressed in this humorous story of a little boy who always loses one mitten.

Klein, Leonore. Just a minute: a book about time. Harvey. 1969. $3.95; PLB $3.79.
Everyday experiences are used to explain concepts of time from a second to a year.

_____ Tom and the small ant. Knopf. 1965. PLB $4.59.

_____ What is an inch? Harvey. 1966. $3.95; PLB $3.79.
Fairly simple explanation of units of measurement of today and long ago.

Kohn, Bernice. Everything has a shape and everything has a size. Prentice-Hall. 1966. $4.75.
Two earlier titles revised into one book. Designed to develop the concepts of shape and comparative sizes of things.

Krasilovsky, Phyllis. The very little boy. Doubleday. 1962. $3.95; PLB $.75 extra; pa. $.95.
Concepts of relative size and growth are basic to this pleasant story.

_____ The very little girl. Doubleday. 1953. $3.95; PLB $.75 extra; pa. $.95.
Pictures depicting ratio and proportion add to the value of this story.

Krauss, Ruth. The growing story. Harper. 1947. $3.95.

Kruss, Janes. 3 x 3 Three by three. Macmillan. 1965. $3.95; PLB $3.74. pa. $.95.
Appealing adventures by groups of three for early primary children.

Langstaff, John. Over in the meadow. Harcourt. 1957. $4.95; pa. $1.25.
Groups of 1 to 10 in a beautifully illustrated picture book based on a folk song.

Leaf, Munro. Arithmetic can be fun. Lippincott. 1949. $2.95.

Lewellen, John. True book of airports and airplanes. Childrens Press. 1956. PLB $4.50.
An informative book using terms regarding number, position, comparison, and measurement.

Linn, Charles F. Estimations. Crowell. 1970. $3.75; pa. $.95.
(A young math book)
Many suggested activities and examples.

Lionni, Leo. Inch by inch. Astor-Honor. 1960. $4.50.

McDonald, Barbara Guthrie. Cooking fun. Walck. 1960. $5.50.
Cookbooks provide excellent practice with many math concepts - fractions, measures, etc.

McGinley, Phyllis. Wonderful time. Lippincott. 1966. $3.50; PLB $3.39.
Poems about time.

McLeod, Emilie. One snail and me. Atlantic-Little, Brown. 1961. $3.95.
A little boy counts and recounts an odd assortment of animals in his bathtub.

Marino, Dorothy. Edward and the boxes. Lippincott. 1957. PLB $3.79
A variety of different size boxes provide homes for animal pets.

Martin, Patricia Miles. That cat! 1-2-3. Putnam. 1969. PLB $3.86.
Attractive two-color drawings and a simple story of a cat's adventure with the contents of a box introduce the numerals 1 through 10.

Merrill, Jean and Scott, Frances Gruse. How many kids are hiding on my block? Albert Whitman. 1970. $3.75.
A hide-and-seek game in an urban setting that naturally involves number concepts and combinations as 10 children are gradually found.

Montresor, Beni. House of flowers, house of stars. Knopf. 1962. PLB $3.99.
Concept of shapes developed through colorful drawings and words: plump, skinny, lanky, squat.

Myller, Rolf. How big is a foot? Atheneum. 1962. PLB $3.62; pa. $.95.
Nonsense story pointing up need for standard measurement.

Nic Leodhas, Sorche. All in the morning early. Holt. 1963. $3.50; PLB $3.27; pa. $1.65.
The concept of groups of things is inherent in this story version of an old Scottish ballad.

O'Brien, Thomas C. Odds and evens. Crowell. 1971. $3.75. (A young math book)
Quite a nice, easy discussion with helpful illustrations of a topic important in mathematics - odd and even numbers.

Papy, Georges, and Frédérique. Graph games. Crowell. 1971. $3.75. (A young math book)
Nice development of one-to-one and one-to-many relationships.

Peppe, Rodney. Circus numbers. Delacourte. 1969. $3.95.
Preschool and beginning primary counting book illustrated with vivid circus animals and performers for the numbers 1 through 10, 20, and 100.

Phillips, Jo. Right angles: paper-folding geometry. Crowell. 1972. $3.75. (A young math book)
An excellent laboratory (activities) approach to the geometry of figures containing right angles.

Pine, T. S. The Chinese knew. McGraw. 1958. PLB $3.83.

Schatz, Letta. When will my birthday be? McGraw. 1962. $3.95.
Concept of time is developed as Benjy must wait through the seasons to be one year older.

Schlein, Miriam. City boy, country boy. Childrens Press. 1955. PLB $3.95.
Concepts of time, size, position and numbers.

_____ Fast is not a ladybug. Young Scott. 1953. $3.75.
Concepts of "fast" and "slow" become more meaningful.

_____ Heavy is a hippopotamus. Young Scott. 1954. $3.75.
Develops an understanding of weights and measures and shows relative ways of thinking about some familiar objects. Teachers should clarify the expression that measurement is "another way to count things" as well as point out that measurement is not exact.

_____ It's about time. Young Scott. 1955. $3.75.
Verse and pictures develop concepts of time in relation to seconds, minutes, hours, days, seasons, etc. Since measurement is not exact, teachers should clarify the expression "exact time."

_____ Shapes. Young Scott. 1962. $3.75.
Develops an awareness of form, shape and design. Teachers must clarify the statement, "a straight line can have an end."

Schneider, Herman. How big is big?: from stars to atoms. Young Scott. 1946. $3.95.

Seignobosc, Francoise. Jeanne-Marie counts her sheep, by Francoise, pseud. Scribner. 1957. $5.95.

_____ What time is it, Jeanne-Marie?, by Francoise, pseud. Scribner. 1963. $5.95.

Sendak, Maurice. Nutshell library. 4 vols. Harper. 1962. set $4.95. Vol. 3 - One was Johnny: a counting book. $3.53.

Shapp, Charles and Shapp, Martha. Let's find out what's big and what's small. Watts. 1959. PLB $3.75.

_____ Let's find out what's light and what's heavy. Watts. 1961. PLB $3.75.

Sherman, Diane. My counting book. Rand McNally. 1963. $1.25.

Sitomer, Mindel and Sitomer, Harry. Circles. Crowell. 1971. $3.75. (A young math book)
See listing in intermediate section.

_____ Lines, segments, polygons. Crowell. 1972. $3.75. (A young math book)
A succession of definitions stated accurately, but still a dull business. Also suggestions for making polygons and for constructing a clockboard on which to make others.

_____ What is symmetry? Crowell. 1970. $3.75; pa. $.95. (A young math book)
Well illustrated, verbally and pictorially.

Slobodkin, Louis. Millions and millions. Vanguard. 1955. $3.95.
Full-page color illustrations, with accompanying rhyming text, depict millions of various objects in the world.

_____ One is good, but two are better. Vanguard. 1956. $4.50.
Examples of activities in which two can play better than one.

Smith, Donald. Farm numbers. Abelard-Schuman. 1970. $3.95; PLB $3.87.
Colorful, simple farm animals, by themselves and again in a farm setting, illustrate the numerals 1 to 10 using only the word numbers for vocabulary.

Spier, Peter. Fast-slow, high-low: a book of opposites. Doubleday. 1972. $4.95.
Amusing picture book with multiple examples to illustrate 27 pairs of opposites involving concepts of size, speed, spacial relations, quantity, texture and temperature.

Srivastava, Jane Jones. Computers. Crowell. 1972. $3.75. (A young math book)
See listing in intermediate section.

_____ Weighing and Balancing. Crowell. 1970. $3.75; pa. $.95. (A young math book)
Lots of activities for balancing concepts moving into the idea of weight.

Stanek, Muriel. One, two, three for fun. Albert Whitman. 1967. $3.25.
Children's everyday activities are used to develop number concepts - one to five and many - with emphasis on successor; i.e., three and one are four.

Thaler, Mike. Penny pencil. Harper. 1963. $3.27.
Adventures of a pencil as she grows smaller and smaller.

True, Louise. Number men. Childrens Press. 1962. PLB $4.50.
Directions for writing the number symbols from 1 to 10 given in verse.

Tudor, Tasha. Around the year. Walck. 1957. $4.25.

_____ 1 is one. Walck. 1956. $4.25.

Ungerer, Tomi. One, two, where's my shoe? Harper. 1964. $3.53.
Picture book based on concepts of form and design.

_____ Snail, where are you? Harper. 1962. $3.53.
Basic book of design shows the snail in many places.

Updike, John. A child's calendar. Knopf. 1965. $3.25. PLB $4.19.
A poem for each month catches the mood of the changing seasons.

Vogel, Ilse-Margaret. 1 is fun, but 20 is plenty. Atheneum. 1965.
$3.25; PLB $3.07; pa. $.95.
Counting book with amusing adventures in rhyme involving a lion and hippo.

Waller, Leslie. Numbers: a book to begin on. Holt. 1960. $3.27.
Book about concept of numbers. Describes range of uses from counting change to scientific applications.

_____ Time: a book to begin on. Holt. 1969. $2.78.
Story of the history of time and why we divide our time into days, seasons, and years.

Watson, Nancy. Annie's spending spree. Viking. 1957. $3.25.
Annie learns that a dollar bill is equal to 2 half-dollars, 4 quarters, 10 dimes, 20 nickles, or 100 pennies.

_____ What is one? Knopf. 1954. PLB $3.99.
Meaning of numbers from 1 to 10.

White, D. O. Elizabeth's shopping spree. Knopf. 1966. PLB $4.99.

Whitney, D. C. Let's find out about addition. Watts. 1966.
PLB $3.75.
Teachers can also use the pictures to illustrate some very elementary aspects of informal geometry.

Wolff, Janet and Owett, Bernard. Let's imagine numbers! Dutton.
1964. $4.50. (An imagination book)

Wolley, Catherine. Sandy and the seventeen balloons, by Jane Thayer, pseud. Morrow. 1955. $3.95.

Yolen, J. H. See this little line? McKay. 1963. $3.50.
An introduction to drawing lines.

Ziner, Feenie. Counting carnival. Coward. 1962. PLB $3.49.
Developing number concepts from 1 to 12.

_____ The true book of time. Childrens Press. 1956. PLB $4.50.

Zolotow, Charlotte. One step, two... Lothrop. 1955. $3.94.
A mother and child count their steps as they take a walk.

_____ Over and over. Harper. 1957. $3.95.
Shows the passage of a year through seasonal events.

For the Intermediate Grades

Adler, Irving. Integers: positive and negative. Day. 1972. PLB $3.96. (The "reason why" books)
The concept of integers is cleverly illustrated by keeping score in a variety of games. Mostly addition of positive and negative integers with a small section on subtraction.

_____ Numerals: new dresses for old numbers. Day. 1964. $3.96. (The "reason why" books)

Adler, Irving and Adler, Ruth. Directions and angles. Day. 1969. PLB $3.96. (The "reason why" books)
Textbook-like discussion of angles, with many definitions. Most suitable for the enthusiastic student.

_____ Numbers old and new. Day. 1960. $3.96.
Excellent enrichment material.

Andrews, F. E. Numbers, please. Little. 1961. $3.75.
Book about number language which uses the digits.

Araki, Chiyo. Origami in the classroom (#1). Tuttle. 1965. $3.75.
Extremely clear directions make this an unusual book of its type.

Barr, Donald. Arithmetic for billy goats. Harcourt. 1966. $3.50.
A billy goat introduces binary and decimal number systems, the four arithmetic processes and the properties of associativity and commutativity.

Belting, Natalia. Calendar moon. Holt. 1964. $4.27.
A poetic almanac, based on legends from many times and places.

Bendick, Jeanne. The first book of time. Watts. 1963. PLB $3.75.
Treats time as a dimension showing its relationship to space and motion and describes important features of the Einstein Theory of Relativity.

_____ How much and how many: the story of weights and measures. McGraw. 1947. $3.25.
Historical background and modern application of weights and measures.

Bendick, Jeanne and Levin, Marcia. Mathematics illustrated dictionary: facts, figures, and people, including the new math. McGraw. 1965. $4.95.
A multitude of suggestions for research projects can be discovered by just thumbing through the pages. Also useful in providing explanations, leads, and hints.

_____ Take a number: new ideas plus imagination = more fun. McGraw. 1961. $2.75.
Facts, ideas, and puzzles explain numbers from finger counting to computers.

_____ Take shapes, lines and letters: new horizons in mathematics. McGraw. 1962. $3.83.
Useful as a supplement to mathematics in upper elementary grades.

Bergamini, David and the editors of Life. Mathematics. Time. 1970. PLB $5.70. (Life science library)

Berger, Melvin. Computers. Coward. 1972. PLB $3.49.
See listing in primary section.

Bradley, Duane. Time for you: how man measures time. Lippincott. 1960. PLB $3.39.
An elementary history of the measurement of time.

Brindze, Ruth. The story of our calendar. Vanguard. 1959. $4.50.
Information about different types of calendars developed through the ages.

Buehr, Walter. Keeping time. Putnam's. 1960. PLB $3.79.

Carona, P. B. Things that measure. Prentice-Hall. 1962. $4.50.
History of measuring devices from origin of ruler to instruments that can measure a speck of dust.

Charosh, Mannis. The ellipse. Crowell. 1971. $3.75. (A young math book)
See listing in primary section.

Cooke, D. C. How money is made. Dodd. 1962. $3.95.

Courtney, William. What does a barometer do? Atlantic-Little, Brown. 1963. $3.50.
Uses mathematical concepts of measurement.

DeRossi, Claude J. Computers: tools for today. Childrens Press. 1972. PLB $4.75.
Gives a comprehensive, yet clear and simple description of the role of computers in our lives. Covers binary operations, flowcharts and occupational opportunities, methods of feeding information and programming.

Ellison, Elsie C. Fun with lines and curves. Lothrop. 1972. $4.25; PLB $3.94.
Activities using ruler, compass and protractor to create a range of designs from simple to intricate. Clear instructions for recreating them with colored thread.

Epstein, Sam and Epstein, Beryl. The first book of measurement. Watts. 1960. PLB $3.75.

Fletcher, Helen Jill. Puzzles and quizzles. Abelard-Schuman. 1971. $3.75; PLB $3.59.
See listing in primary section.

Fegel, B. R. What's the biggest? Random House. 1966. PLB $4.79.
Explores the meaning of size in the world around us.

Freeman, Mae. Finding out about shapes. McGraw. 1969. $3.95.
See listing in primary section.

Friend, J. N. Numbers: fun and facts. Scribner. 1954. $5.95; pa. $2.25.

Froman, Robert. Rubber bands, baseballs and doughnuts: a book about topology. Crowell. 1972. $3.75. (A young math book)
This is a sound summary with hilarious cartoon illustrations of some elementary principles of topology, an important topic that is touched on briefly in a few elementary school programs. Topology deals with properties of an object or form that survive distortion such as stretching.

Gallant, Roy A. Man the measurer: our units of measure and how they grew. Doubleday. $4.95; PLB $.75 extra.
Well-done historical account with plenty of facts, thought-provoking questions, and a strong argument for adoption of the metric system.

Gardner, Martin. Mathematical puzzles. Crowell. 1961. $4.50.
How to solve arithmetic, money, plane and solid geometry puzzles provides challenging material for the budding mathematician.

_____ Perplexing puzzles and tantalizing teasers. Simon and Schuster. 1969. $3.95; PLB $3.79; pa. $.60.
Puzzles for the confirmed addict, not all with obvious math concepts but challenging and fun.

Hine, Al. Money round the world. Harcourt. 1963. $3.75.

Hitte, Kathryn. Hurricanes, tornadoes and blizzards. Random House. 1960. PLB $3.47.
Good charting of dimensional information makes this book about the mathematical problem of predicting the direction of major storms even more valuable.

Hyde, M. O. Animal clocks and compasses: from animal migration to space travel. McGraw. 1960. PLB $3.83.
Interesting presentation of "animal clocks" and "compasses" which tell them when to hibernate, migrate and travel.

Johnson, D. A. Games for learning mathematics. Walch. 1973. pa. $4.00.
Directions and diagrams for 70 games involving arithmetic.

Jonas, Arthur. More new ways in math. Prentice-Hall. 1964. $4.75.
Brief discussions of some abstract topics such as open equations, identity, laws of mathematics and number lines. Good for reference.

_____ New ways in math. Prentice-Hall. 1962. $4.50.
Cartoons are used to illustrate set theory, binary notation, and probability.

Kadesch, Robert R. Math menagerie. Harper. 1970. $4.50; PLb $4.11.
See listing in "more able" section.

Kenyon, R. G. I can learn about calculators and computers. Harper. 1961. $3.95.
Simple computing devices, including the slide rule, can be made from clearly stated instructions.

Kettelkamp, Larry. Puzzle patterns. Morrow. 1963. $3.56.
Examples of geometric puzzles, ciphers, jigsaws, and anagrams point out everyday uses of puzzle patterns in gears and locks.

_____ Spirals. Hale. 1964. $2.67.
Concepts of spatial relationships are well illustrated and explained.

Klein, Lenore. What is an inch? Harvey. 1966. $3.95; PLB $3.79.
See listing in primary section.

Kohn, Bernice. Computers at your service. Prentice-Hall. 1962. $4.75.

Latham, J. L. Carry on Mr. Bowditch. Houghton. 1955. $4.25; pa. $.95.
A biography of Nathaniel Bowditch who developed tables for navigators which are still used today.

Lauber, Patricia. The story of numbers. Random House. 1961. PLB $3.47.
Includes interesting chart showing the names for very large numbers.

Leeming, Joseph. Fun with puzzles. Lippincott. 1945. $6.50.

Lieber, L. R. Mathematics: first s-t-e-p-s. Watts. 1962. PLB $3.95.

Lowenstein, Dyno. First book of graphs. Watts. 1969. PLB $3.75.
Good book on graphs except for incorrect concepts pertaining to line graphs. Most are shown as continuous when they shouldn't be.

Malter, M. S. Our largest animals. Albert Whitman. 1958. $2.75.
Many number names, relative size, weight, and time are the basis of this book.

Massoglia, Elinor. Fun-time paper folding. Childrens Press. 1959. PLB $3.25.
An understanding of the terms of comparison and shape is needed to make objects without cutting or pasting.

Meadow, Charles T. The story of computers. Harvey. 1970. $4.50; PLB $4.39.
A didactic, but quite extensive, discussion of what computers are and how they function in our society. Includes a fair amount of technical information.

Neal, H. E. The story of the kite. Vanguard. 1954. $3.95.
Construction of kites requires elementary concepts of measurement and geometry.

Neely, H. M. Triangles: getting ready for trigonometry. Crowell. 1962. $3.50.

Norman, Gertrude. The first book of music. Watts. 1954. PLB $3.75.
A part of this book illustrates the application of mathematics to music in the study of rhythm and the building of melodies.

Ravielli, Anthony. The world is round. rev. ed. Viking. 1970. $4.13.
Pictorial account of why the earth seems flat to us and how man learned its true shape.

Razzell, Arthur G. and Watts, K. G. O. Probability: the science of chance. Doubleday. 1967. $2.50; PLB $.75 extra. (Exploring mathematics)
This gives a sound, pleasant discussion of some fundamentally important notions of probability without recourse to rules and formulas. Valuable for 5th and 6th graders.

Rogers, J. T. The Pantheon story of mathematics for young people. Pantheon. 1966. $4.95; PLB $6.19.
Presents mathematics as the product of the mind of man.

Rothman, Joel and Tremain, Ruthven. Secrets with ciphers and codes. Macmillan. 1969. $4.95.
Explanation of a variety of codes using letters, numbers, and expecially shapes and color along with messages for practicing encoding and decoding.

Ruchlis, Hy and Engelhardt, Jack. The story of mathematics: geometry for the young scientist. Harvey. 1958. $4.95; PLB $4.99.
Discussion of many interesting, beautiful and practical geometric topics, including directions for making many designs and shapes. "Some Geometric Puzzles" would be a more accurate title.

Russell, S. P. Lines and shapes: a first look at geometry. Walck. 1965. $4.25.

_____ One, two, three and many: a first look at numbers. Walck. 1970. $4.25.
Readable account of the history of numeration.

Sharp, Elizabeth. Simple machines and how they work. Random House. 1959. $2.95; PLB $3.47.
This discussion of wheels, pulleys, levers, screws, wedges, and inclined planes makes wide use of the language of size, position, and comparison.

Simon, Leonard. The day the numbers disappeared. McGraw. 1963. $3.95.
An amusing story of a class which became bored with numbers and tried to live without them.

Sitomer, Mindel and Sitomer, Harry. Circles. Crowell. 1971. $3.75. (A young math book)
Begins with a clear, intuitive explanation of a circle, proceeds to explain the use of a compass, and shows how to make beautiful designs using circles.

_____ Lines, segments, polygons. Crowell. 1972. $3.75. (A young math book)
See listing in primary section.

_____ What is symmetry? Crowell. 1970. $3.75; pa. $.95. (A young math book)
See listing in primary section.

Srivastava, Jane Jones. Computers. Crowell. 1972. $3.75. (A young math book)
A very simplified and popularized version of the internal construction and operation of a computer.

_____ Weighing and Balancing. Crowell. 1970. $3.75; pa. $.95. (A young math book)
See listing in primary section.

Stonaker, Frances Benson. Famous mathematicians. Lippincott. 1966. $3.95.
Very readable account of some of the great mathematicians from Euclid to Wiener. Useful for motivation and oral reports, math club projects, etc.

Van Note, Peter. Tangrams: picture-making puzzle game. Tuttle. 1966. pa. $1.25.
This popular game of fitting together a seven-piece puzzle to form illustrated silhouetted patterns can also help teach about shapes.

Way, L. R. and Wooldridge, E. T. Let's play 'rithmetic: children's stories about ancient figures and figuring. Exposition Press. 1959. $2.50.

Zim, Herbert. The universe. Morrow. 1961. $3.56.
Combining ideas of measurement and geometry, the author shows the earth in relation to other planets.

For the more able learner

Adler, Irving. The magic house of numbers. Day. 1957. $3.96; Signet. pa. $.60.
Our number system made interesting via mathematical curiosities, riddles, tricks, and games.

_____ Sets. Day. 1967. $3.96. (The "reason why" books)
Extremely brief treatment of sets, sub-sets, empty sets, truth sets, equations, intersection and union and least common multiples.

Asimov, Isaac. Realm of measure. Houghton. 1960. $4.95. Fawcett. pa. $.75.
Informal explanation of numbers and numerals from simple finger counting to logarithms, imaginary numbers, and infinity.

Barr, Stephen. Experiments in topology. Crowell. 1964. $4.50. pa. $1.95.
A lively explanation of one of the dynamic branches of mathematics.

_____ A miscellany of puzzles: mathematical and otherwise. Crowell. 1965. $3.50.
A good recreational book of its kind, with examples from logic, topology, arithmetic and other sources.

Bendick, Jeanne. How much and how many: the story of weights and measures. McGraw. 1947. $3.25.
See listing in intermediate section.

Berger, Melvin. For good measure: the story of modern measurement. McGraw. 1969. $4.95; PLB $4.72.
A history of measurement including length, mass, time, temperature, sound, light, electricity, and radiation.

Bixby, William and Santillana, Giogio de. Universe of Galileo and Newton. Harper. 1964. $5.95.
One of the very attractive Horizon titles.

Brandes, L. G. A collection of selected math posters. Walch. 1966. pa. $3.50.
Eighteen posters to assist in stimulating an interest in mathematics.

_____ 4 the math wizard. Walch. 1962. pa. $3.00.
This varied collection of puzzlers, number oddities, etc. contains a good annotated bibliography of available publications in the area of mathematical enrichment.

_____ Yes, math can be fun. Walch. 1960. pa. $2.50.

Cordell, C. M. Dramatizing mathematics. Walch. 1963. pa. $4.00.
Seventeen vivid no-royalty skits and action projects requiring no special scenery or costumes.

Davis, Philip J. and Chinn, William G. 3.1416 and all that.
Simon and Schuster. 1969. $5.95.
Collection of articles from Science World on topics of intellectual appeal that explore some interesting aspects of mathematics. Suitable for very bright sixth graders.

Diggins, Julia. String, straightedge, and shadow: the story of geometry. Viking. 1965. PLB $4.53.
A number of simple experiments enhance this delightful explanation of the history and use of mathematics, with an emphasis on geometry.

Dilson, Jesse. The abacus: a pocket computer. St. Martin's.
1968. $4.50.
Gives a brief resume of the history of numeration, and a detailed description of abaci, including their operation. Good for the rare student who loves arithmetic calculations.

Dinesman, Howard P. Superior mathematical puzzles: with detailed solutions. Simon and Schuster. 1968. $3.95.

Feravolo, Rocco. Wonders of mathematics. Dodd. 1963. $3.95.
Simple activities and problems illustrate the development of number systems and mathematics.

Freeman, Mae and Freeman, Ira. Fun with figures. Random House.
1946. $2.50; PLB $3.39.
An introduction to simple principles of geometry.

Halacy, Dan. Charles Babbage: father of the computer. Macmillan.
1970. $4.95.
Interesting biography of a man who spent much of his life trying to design and perfect a calculating machine and then a computer in the 1800's.

Hirsch, T. L. Puzzles for pleasure and leisure. Abelard-Schuman.
1967. $4.00.

Hogben, Lancelot. The wonderful world of mathematics. Doubleday.
1955. $3.95; PLB $.75 extra.
A history of mathematics, showing how its development parallels the growth of civilization.

Jacoby, Oswald and Benson, William H. Mathematics for pleasure. Fawcett. 1962. pa. $.95.
150 brainteasers with solutions suitable for the secondary level but with some problems that are fun for the fifth and sixth graders.

Kadesch, Robert R. Math menagerie. Harper. 1970. $4.50; PLB $4.11.
Fascinating topics, clearly presented, that reveal how mathematics works with fun activities such as building flexagons, breaking codes, and blowing bubbles.

Kojima, Takashi. The Japanese abacus: its use and theory. Tuttle. 1954. pa. $1.95.

Levinger, E. E. Albert Einstein. Messner. 1949. $3.50; PLB $3.79.

Linn, Charles F. Puzzles, patterns and pastimes, from the world of mathematics. Doubleday. 1969. $3.50.

Marshall, R. K. Sundials. Macmillan. 1963. $3.95.

Meadow, Charles T. The story of computers. Harvey. 1970. $4.50; PLB $4.39.
See listing in intermediate section.

Moore, William. How fast? how far? how much?: the how of scientific measurements. Putnam. 1966. $3.89.
Describes a wide range of measurement ideas and devices with reference to several engineering and physical disciplines.

Peare, C. O. Albert Einstein: a biography for young people. Holt. 1949. $3.27.

Plotz, H. R. Imagination's other place: poems of science and mathematics. Crowell. 1955. $4.95.

Ravielli, Anthony. An adventure in geometry. Viking. 1957. PLB $3.56.

Rosenthal, E. B. Understanding the new math. Hawthorn. 1965. $4.95. Fawcett. pa. $.75.
Especially good for understanding modern mathematics and its application to problems of logic and pure and applied mathematics.

Ruchlis, Hy and Engelhardt, Jack. The story of mathematics: geometry for the young scientist. Harvey. 1958. $4.95; PLB $4.99.
See listing in intermediate section.

Rusch, Richard B. Man's marvelous computer: the next quarter century. Simon and Schuster. 1970. $4.95.
Thought provoking preview of how computers may be used by society in the near future in education, environmental control, law enforcement, medicine, etc. and some of the sociological and economic implications.

Terry, Leon. The mathmen. McGraw. 1964. $3.95.
A well-written, brief study of the mathematical contributions of the early Greeks, which shows mathematics as a creative human endeavor.

Vorwald, Alan and Clark, Frank. Computers: from sand table to electronic brain. 3rd edition. McGraw. 1970. $4.95.
A rather, full technical account of computers with instructions on how to make one.

Zarchy, Harry. Wheel of time. Crowell. 1957. $3.75.
Concepts of time and its measurement are carefully developed.

PUBLISHERS

Abelard-Schuman, Ltd.

Astor-Honor

Atheneum Publishers

Atlantic-Little, Brown; published by Atlantic Monthly Press, distributed by Little, Brown & Co.

Childrens Press, Inc.

Coward, McCann & Geoghegan, Inc.

Thomas Y. Crowell Co.

John Day Company

Delacourt Press, dist. by Dial

Dial Press

Dodd, Mead & Co.

Doubleday & Co.

E.P. Dutton & Co.

Exposition Press, Inc.

Fawcett Publications, Inc.

E.M. Hale & Company, Pubs.

Harcourt Brace Janovich, Inc.

Harper & Row, Publishers

Harvey Hours, Inc., Publishers

Hawthorn Books, Inc.

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